TWO-BUS

AUTO SWITCH BUFFER

User's Manual

AS-422P

4-IN-2-OUT CONCURRENT AUTO SWITCH BUFFER

AS-422P

User's Manual

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1. INTRODUCTION

This high speed Dual-Bus AS-422P Auto Switch Buffer enables 4 users to share 2 Centronics printers and it accepts two print jobs to two printers at the same time. Printer selection is as easy as pressing buttons, popping up TSR program, or appending software control codes to your files. Optional high-capacity ASB buffer cards may be installed to cut wait time down to minimum.

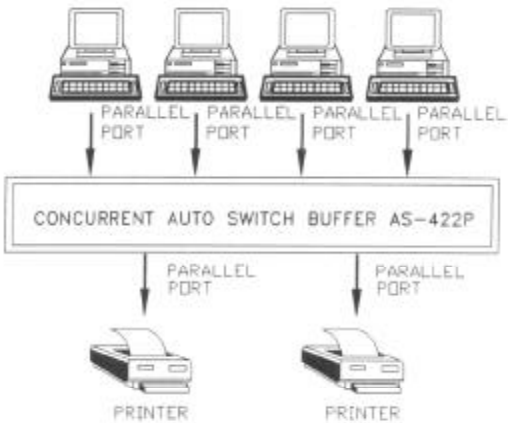


Fig. 1-1

2. INSTALLATION

- Turn AS-422P off.
- Setup DIP switchs near the power jack (see Sec. 4).
- To connect computers to AS-422P, use DB-25 male-to-male cables.
- To connect printers to AS-422P, use DB-25 to C36 male-to-male cables.
- Connect DC 9V 600mA adaptor to AS-422P' s power jack, and press the reset button, then the Auto Switch is ready.

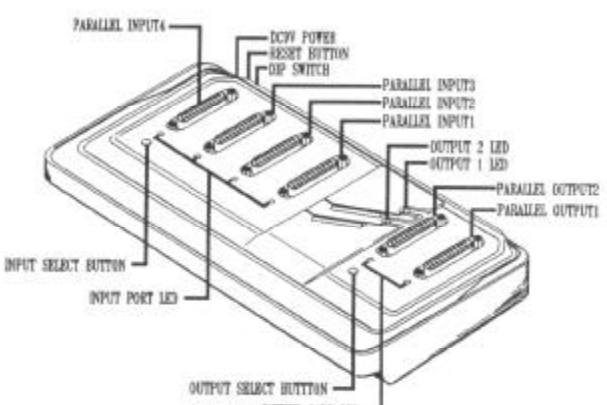


Fig. 2-1

3. BUFFER CARD INSTALLATION

Follow these steps to install ASB buffer card:

- Unscrew the metal chassis.
- There are two 2x14 gold pin connectors, one for OUTPUT 1 and the other for OUTPUT 2. See Fig. 3-1 You may install one or two ASB buffer cards.
- ASB buffer card should be installed as shown in Fig. 3-1, right buffer card for OUTPUT 1 and left buffer card for OUTPUT 2.
- Secure the plastic spacer between the buffer card and the AS-422P printed circuit board.
- Screw the chassis back to complete the installation.

When AS-422P resets, it takes about 5 seconds to perform ASB buffer card self-test, and AS-422P does not accept print job during self-test. This self-test is indicated by quick flashing INPUT LEDs and OUTPUT LEDs. Refer to Sec. 7.3 for Buffer Card LEDs status.

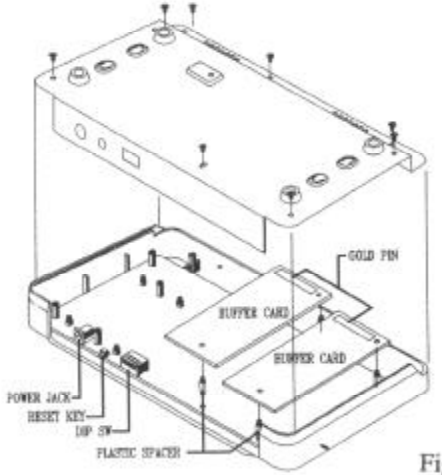


Fig. 3-1

4. DIP SWITCH SELECTION

DIP switch selection is effective when AS-422P resets. And the functions are:

AS-422P DIP SWITCH				
1	2	3	4	FUNCTION
ON	X	X	X	Formfeed Enabled
OFF	X	X	X	Formfeed Disabled
X	ON	X	X	Broadcast Timeout Waits
X	OFF	X	X	Broadcast Timeout Unchanged
X	X	ON	ON	Timeout = 5 seconds
X	X	ON	OFF	Timeout = 10 seconds
X	X	OFF	ON	Timeout = 25 seconds
X	X	OFF	OFF	Timeout = 60 seconds

Note:1. X is don' t care

2. For detailed function of DIP switch #2, see section 5.4

5. SELECTION OF THE PRINTER AND OPTIONS

Before sending data to AS-422P, a user should select one or more output printer(s), AS-422P remembers the selection till resets; however, broadcast mode is effective momentarily when selected.

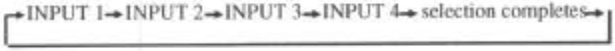
This operation can be done in three ways:

1. by using front panel buttons.
2. by using a software driver delivered with the AS-422P.
3. by using software control codes in the print job.

5.1. Selection with the front panel buttons

5.1.1. Using the INPUT SELECT button

INPUT SELECT button is on the left of the panel. Press this button to choose an input port. When the button is pressed several times, green input port LED turns on one by one at the following order:



While INPUT SELECT button is pressed, AS-422P skips the input port which is sending print jobs to avoid unwanted file separation.

5.1.2. Using the OUTPUT SELECT button

OUTPUT SELECT button is on the right of the panel. This is effective only after INPUT SELECT button is pressed. It chooses the desired OUTPUTs for the previously chosen input port by above operation. Press this button several times to select OUTPUTs in the following order indicated by orange LEDs.

One OUTPUT LED turns on as one OUTPUT is selected by the input port. Two OUTPUT LEDs turn on as both printers are selected in AUTO mode.

5.1.3. Button selection example

While user of input port #2 is sending a print job to an OUTPUT. User of input port #3 wants to use printer of OUTPUT 2 only.

1) Press the INPUT SELECT button twice to turn green LED of INPUT 3 on.

   When the button is pressed, AS-422P turns on green LED of INPUT 1. Then skips INPUT 2 because it is printing and turns on INPUT 3 LED.

2) While green LED of INPUT 3 is on, press OUTPUT SELECT button several times till orange LED of OUTPUT 2 is on only.

3) After selection is done, he may either press INPUT SELECTION button two more times to complete or simply ignore it.

5.2. Selection with software control code

Software control codes are specially coded characters which can be included in your TEXT file. When AS-422P receives a software control code, it intercepts the control code and updates the selection for the input channel hereafter.
The software control codes are:

&+&C0 <Return>
Select Broadcast mode, see section 5.4 for detail.

&+&C1 <Return>
Select OUTPUT 1

&+&C2 <Return>
Select OUTPUT 2

&+&C3 <Return>
Select OUTPUT 1 & 2 automatically

&+&C4 <Return>
Formfeed disabled

&+&C5 <Return>
Formfeed enabled

&+&C6 <Return>
Select 5 seconds Timeout

&+&C7 <Return>
Select 10 seconds Timeout

&+&C8 <Return>
Select 25 seconds Timeout

&+&C9 <Return>
Select 60 seconds Timeout

Note: <Return> is the "Return" or "Enter" key on the keyboard.

5.3. Broadcast mode

Broadcast mode enables a user to send print jobs to both OUTPUTs at the same time. This mode can be activated by software control codes, TSR and WINDOWS drivers. **Front panel buttons do not support this function**. Broadcast mode can easily be identified by one INPUT LED which is on and two flashing OUTPUT LEDs.

Since files are sent to both printers simultaneously in Broadcast mode, both printers must be ready and not printing data when Broadcast command is sent, or the command is ignored.
DIP switch #2 determines the Timeout type for Broadcast mode:

1) When DIP switch #2 is set OFF and a user sends a Broadcast command:

   AS-422P reserves both OUTPUTs for him and does not change the Timeout set by the user.

2) When DIP switch #2 is set ON and a user sends a Broadcast command:

   AS-422P reserves both OUTPUTs for him and stops Timeout count down until the user sends print jobs.

After Broadcast mode completes by Timeout, AS-422P restores previous OUTPUT selection and Timeout selection.

Note:1 Command decoding is disabled in Broadcast mode; therefore, do not send any command in the TEXT or by software driver. The only way to exit Broadcast mode is by Timeout expiration. Broadcast mode completes when INPUT LEDs start scanning.

2 Both printers must be ready in Broadcast mode; otherwise, AS-422P hangs till both printers are ready again.

6. SPECIFICATION

FUNCTIONS	SPECIFICATION
Power Supply	DC 9V, 600mA
Cable Distance	10m (33feet) Max.
Connector - Input (Female)	4 Centronics, DB-25
Connector - Output(Female)	2 Centronics, DB-25
Input Arbitration	First-come-first-served & Concurrent
LED	4 Input Status
	2 Output Status
Timeout Selection	5, 10, 25, 60 Seconds
Auto Formfeed	Enable/Disable
Printer Selection	Button, Hot-Key, Software
Operation Temperature	5°C~40°C
Humidity	0%~80%
Enclosure	Metal and Plastic
Weight	1100g
Dimensions(LxWxH)	270x145x34mm

7. LED

There are 4 INPUT status LEDs and 2 OUTPUT status LEDs.

7.1. When INPUT SELECT button is NOT pressed:

INPUT status LED:

- Scanning INPUT LEDs one-by-one indicates there is at least one reading printer connecting to AS-422P.
- INPUT channel's LED keeps on indicating the channel is sending print jobs.
- If two users are sending print jobs, only two INPUT LEDs are on.
- During Broadcast mode, only one INPUT LED is on.

OUTPUT status LED:

- When both OUTPUTs are not ready to take print jobs, all INPUT LEDs remain off, but OUTPUT LEDs blink every second.
- OUTPUT LED turns on as the connecting printer is ready and turns off as the printer is not ready to take new print job.
- OUTPUT LED flashes when the OUTPUT is sending data to the connecting printer or buffer card.

7.2. When INPUT SELECT button is pressed for printer selection:

- INPUT LED turns on for the selected INPUT channel.
- OUTPUT LED turns on as the corresponding printer is selected. See section 5-1 for detail.

7.3. Buffer Card LEDs:

There are two red buffer card LEDs, see Fig. 3-2, one for each OUTPUT. The LED is effective when the corresponding OUTPUT has buffer card installed. Buffer card LED is on when buffer card is ready. The LED flashes when there is data in buffer card. The LED turns off and blinks when buffer card gets full. Please check the buffer card manual for detailed LED status.

8. TROUBLESHOOTING

If printer is loaded with paper and ON-LINE but does not print, use this information to solve your problem.

Symptom	Cause	Solution
Nothing happens when you press the reset button of AS-422P.	The AS-422P is not properly connected.	Make sure the power adapter is firmly inserted into the AS-422P' s power jack with correct polarity. Check back panel. If you use a power strip, make sure it is on and plugged into an outlet. At least one LED would on when AS-422P gains power. This is a good indication for power.
The printer is on, but nothing prints.	The printer is not ready to print	Press the ON-LINE button to set the printer ON-LINE.
	The printer is not properly connected.	Re-secure the printer cable. Press the AS-422P reset button and see if printer resets.
	Your software is not setup for the printer.	Follow the instructions in your software application for selecting a printer.
Nothinging prints and the INPUT LED turns on.	Paper is loaded in-corrected.	Replace the incorrect paper.
	The printer is not properly connected.	Secure both ends of the printer cable.

Send a Broadcast command but files are not broadcasted.	Broadcast command is accepted when both printers are ON-LINE.	Wait till others finish their print job then initiate Broadcast command.
Try to send a file, but receive error message.	The computer cable is not properly connected.	Secure the computer cable.
		Use and check the printer port on the computer. Resend the file to the correct printer port on computer.
	OUTPUT port is occupied.	When buffer card is not installed, AS-422P is an autoswitch, which takes file one at a time. Wait till the OUTPUT port timeouts, then send your file.